

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Carrier Current Systems, including	)	ET Docket No. 03-104
Broadband over Power Line Systems	)	
	)	
Amendment of Part 15 regarding new	)	ET Docket No. 04-37
requirements and measurement guidelines	)	
for Access Broadband over Power Line	)	
Systems	)	

**COMMENTS FROM AMPERION, INC.**

Amperion would like to share with the Commission its initial reaction to a report<sup>1</sup> that was recently released by the Office of Communications (Ofcom) in the United Kingdom. This report was published as the result of measurements taken by Ofcom at Amperion's experimental trial BPL system with Scottish and Southern Electricity (SSE) in Crieff, Scotland.

Ofcom approached Amperion and SSE in 2004 about their desire to learn more about emissions produced by BPL systems. They admitted that they had no previous experience with MV BPL so we agreed that it would be best for all parties concerned that this project be treated as a collaborative process. The Crieff deployment is a particularly small network implemented for joint Research and Development purposes only.

As such, Ofcom was invited on the understanding that they agreed at the beginning of the measurement program that Amperion would first be given

the right to review the statements made therein. This was to ensure that the context of the measurements and the status of the research network operation at Crieff would be fully explained within the report, and that the findings would be conveyed as accurately as possible with a full understanding of the Amperion system.

More importantly, the shared objective of both parties was to ensure that Ofcom fully understood the equipment and network since this was their first experience with this technology.

Amperion is therefore extremely disappointed that Ofcom has taken upon itself to ignore its own process and publish a premature and uncoordinated report on its web site without any input or approval from Amperion. As a result, this report reflects information that is inappropriate for the public domain, especially the way it is inaccurately represented.

This report was to measure emissions of an experimental site, not specifically to compare those emissions with the FCC limits that our normal equipment passes. This was made clear from the beginning, especially given the operating conditions that Ofcom unfairly requested. Ofcom asked Amperion to operate the equipment at maximum power levels to test the absolute parameters of the hardware for their own education. Amperion agreed to do so after explaining that this scenario would indeed exceed most limits, but thinking that this would be properly explained in the report, which it was not.

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<sup>1</sup> “Amperion PLT Measurements in Crieff”, published May 11, 2005

The important issue to recognize is that the normal operations of the Crieff system require much lower power levels. These are the settings under which the equipment operates on a daily basis and are the conditions which should have been applied for these measurements.

The maximum power levels were obviously a major factor in the increased emission levels and makes operation above 30 MHz particularly energetic - Amperion equipment is not constrained by construction, but by configuration. This is unlike other radio equipment that is constrained to never be able to exceed limits. Unlike radio equipment which has known environmental conditions and can use constructively constrained to determined limits, Powerline has greatly varying path losses which require the equipment to be highly configurable. Additionally the same electronics amplification is used in Amperion OH and UG systems (with very different couplers). This expedience of product embodiment does not mean the equipment would be configured at maximum power on the wrong coupler on the wrong network. This kind of point and possible misunderstandings of them by the ARRL are exactly the reason for the close cooperation requested by Amperion in complying with Ofcom's request.

Other discrepancies could be due to not only their unfamiliarity, but also the hurried nature in which this testing was conducted. We will continue to investigate the content of the report and make suggestions directly to Ofcom that will improve the accuracy of the results. It is

unfortunate that Amperion did not have the promised opportunity to do so in advance.

As has been well documented with detailed information already submitted to the Commission, Amperion systems have been shown to fully comply with Part 15 limits within our numerous deployments across the US. The Crieff system, however, continues to function as a development site, as both Amperion and SSE monitor and investigate operating methodologies and characteristics of the unique power environment in Crieff. It was not configured to perform at FCC limits, but even so, below 30 MHz and on maximum power it barely exceeds them. Above 30 MHz, our possible power levels are much higher - and setting them to maximum will exceed the limits - that was not in dispute, nor requiring research. So this was never an objective of the report. This begs the question of why it was so central in the report's "findings" - we intend to continue to pursue this answer with Ofcom.

The fact that Ofcom has, for unknown reasons, decided to publish these results without making this position clear is at the least very disappointing, and possibly much worse. However, Amperion will continue to work positively and openly with SSE and Ofcom in Crieff as we continue to explore and investigate the various technical options for possible future commercialization of BPL systems in the UK. In the future, however, we will not be so flexible as to set the emissions to maximum without written assurances that the then-measured signals are clearly explained as an

experiment and not used for some unknown but possibly political aspirations.

Amperion looks forward to continuing its cooperative activities with the Commission and other users of the spectrum at its deployments in the US. We remain confident that our equipment will continue to maintain compliance with the rules and that our interference mitigation techniques remain effective at our network locations.

Respectfully submitted,

**Amperion**

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